



Alcimedes

The modern polygraph (“*lie detector*”) evolved over a hundred years ago. One of the pioneers of this device in the early 1900s was the Harvard psychologist and lawyer Dr William Moulton Marston. Interestingly, he was also an author and would later create the cartoon character *Wonder Woman* under the nom de plume “Charles Moulton.” The polygraph was later improved upon by the Californian criminologist Leonarde Keeler, although the reliability of even today’s polygraphs remains highly debatable.

One of the original cases in which the device was used was that of James Frye in 1923, where he was accused of the murder of Dr Robert Brown, a physician from Washington DC. Dr Marston was called upon by Frye’s lawyers to confirm their client’s claims of innocence. Marston would ask Frye various questions about the alleged crime, and after each answer, would measure his systolic blood pressure and test for sweating. Marston believed that a lie would result in a corresponding elevation of systolic BP and increased perspiration, and used his findings to “prove” that Frye was innocent of the charges.

As this was not an established technique, presiding Judge McCoy refused to allow Marston’s evidence to be admissible. However, the results had already been heard by the jury and arguably influenced the verdict. The jury convicted Frye of 2nd degree murder, but this could easily have been 1st degree murder with a resultant death sentence, had Marston’s evidence not been heard. This case is perhaps most famous for resulting in the Frye Standard of admissibility of scientific evidence that is relied upon in court, and this remained a gold standard in the USA until *Daubert* in 1993.^{1,2}

However, lie detection may have entered a new era with a study at Utah University taking some small steps towards a mind-reading machine. A team of Neural Engineers led by Professor Bradley Greger laid electrodes on the speech centres of a patient who was conscious during a craniotomy for epilepsy. The patient was asked to consider a series of short words (such as *hot*, *cold*, *yes* and *no*), with the cortical electrical activity varying from word to word. The team was able to predict the words that the patient was thinking with up to 90% accuracy.³

One possible weakness of this study is that it assumes that the patient was not lying about which words he said that he was thinking at the time. Although highly impressive, it is also unlikely that this new technique would pass either Frye or *Daubert* standards at the present time.

On the topic of lie detection, some science fiction writers would have us believe that a “Truth serum” is available over the counter at the local pharmacist and is widely used by police when interviewing undesirables. Thiopental is one such compound: it is an intravenous barbiturate and induction anaesthetic agent that, in

recent years, has largely been replaced by propofol. However, it is still used in veterinary medicine, is often highly recommended on euthanasia websites, and is frequently the preferred mode of lethal injection of criminals. Currently, there is a worldwide shortage, which means that a recently proposed state killing in California was cancelled 48 h before the scheduled execution. The Illinois-based pharmaceutical company Hospira, which holds the sole licence for the manufacturer of thiopental in the US, has also distanced itself from thiopental’s role in capital punishment, saying that “*The drug is not indicated for capital punishment, and Hospira does not support its use in this procedure.*”

In the meantime, the delay has also affected intended executions in Oklahoma: two inmates are awaiting execution, but there is only one vial of thiopental available.^{4,5}

Yet another leading academic has lent his support to the idea of drastically altering the classification of drugs in the UK. Professor Roger Pertwee, a Neuropharmacologist at Aberdeen University, has called upon the possibility of a licensing system for the sale of cannabis, which currently enjoys Class B status since being reclassified in January 2009.⁶ This suggestion follows on from similar calls and concerns raised by Professor Ian Gilmore from the Royal College of Physicians, and Professor David Nutt, former Chairman of the Advisory Council on the Misuses of Drugs. In addition, a recent editorial in the *BMJ* by Professor Robin Room of Melbourne University suggested the possibility of an off-licence type regulation of cannabis, arguing similarities between the prohibition of cannabis and alcohol.⁷

Perhaps a Joint statement is required to clarify things?

Meanwhile, a study published in the Canadian Medical Association Journal of 21 volunteers has supported the notion that cannabis is effective against chronic, neuropathic pain. In the Montreal study, 23 patients were enlisted into a placebo-controlled analysis where they were allowed to smoke cannabis at home for medical reasons, with 21 patients completing the study. The researchers concluded that the intensity of pain was reduced and that sleeping was improved when cannabis was smoked three times daily for five days.⁸

The Home Office recently announced the further roll-out of the Child Sex Offender Disclosure Scheme, commonly known as Sarah’s Law. This system allows parents to contact the police regarding individuals who are in contact with their children. If there are concerns, the police can pass on information if it is likely to help keep the child safe. The scheme has been piloted in four counties in

England and Wales since 2008 and is about to be extended to a further twelve counties, with the remaining areas being covered by Spring 2011. The Home Office claims that the scheme has "protected more than 60 children from abuse during its pilot."⁹

The Samaritans has launched a five year anti-suicide campaign entitled "Men against the Ropes." The charity states that there are over 6000 suicides per year in the UK, with approximately three quarters occurring in men. In particular, the age-group of 25–55 in men is most commonly affected.¹⁰

The campaign consists of posters and adverts in various media outlets, including the internet and radio, with the idea of encouraging people to talk to the Samaritans or family and friends when personal issues become difficult to deal with. Network Rail has sponsored the scheme and hopes to reduce railway suicides by 20% within five years.

A study from the Universities of Oxford and Stockholm has suggested that bipolar disorder does not increase an individual's tendency towards being violent. The study, published in The Archives of General Psychiatry, was led by Forensic Psychiatrist Dr Seena Fazel, and compared a cohort of Swedish bipolar patients against a general population. The findings suggested that violence was no more common in the bipolar group ($n = 3743$) compared with the general population ($n = 37\,429$). However, each group experienced approximately 6–8 times an increase in violence when alcohol or illicit drugs had been consumed.¹¹

It is widely documented that rape has been used as torture and punishment over the centuries. Indeed, it was somewhat regarded as customary after conquering the enemy in the days of Genghis Khan, the Romans and the Vikings. More recently, this horrendous practice has been cited in the warzones of the former Yugoslavia, Rwanda and DR Congo.

A 550-page report has recently been released by the United Nations and tracks the human rights and humanitarian law violations in DR Congo in the period 1993–2003.¹² The report documents 617 of the most serious violations, although it is widely held that tens of thousands of men, women and children died or were victims of rape and mutilation during this period.

The UN Security Council also recently heard that UN peacekeepers in DR Congo had failed to prevent the mass, systematic rape of men, women and children in several villages in eastern Congo as recently as July and August 2010. This failing was despite the widespread presence of UN Peacekeepers. The UN has promised to ensure increased vigilance, with better mobile telephone communication and increased random visits to villages by UN peacekeepers.¹³

Hampshire police have received a fair degree of ridicule after releasing an e-fit image of a suspected burglar: the picture looked like a man wearing a lettuce on his head. The software was unable to recreate his hair properly and a spokesman confirmed that the "hair on this image may not be of the best quality".¹⁴

E-fit identification is notoriously difficult and, despite his distinctive appearance, this half-man half-vegetable remains at large. Indeed, he may be photosynthesising quietly in a corner somewhere, perhaps under the limelight of his huge Internet popularity.

Isolated cases such as this may be just the tip of the iceberg... That's shallot for this month.

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